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L14 and L13	2

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### Search History

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#### Set Name Query

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<u>L16</u>	L15 and L13	4	<u>L16</u>
<u>L15</u>	schlokat.in.	10	<u>L15</u>
<u>L14</u>	himmelspach.in.	5	<u>L14</u>
<u>L13</u>	L12 and Factor XIa	10647	<u>L13</u>
<u>L12</u>	L11 and (beta peptide cleavage site)	8616	<u>L12</u>
<u>L11</u>	L10 and I8	8625	<u>L11</u>
<u>L10</u>	L9 and C-terminal region	787402	<u>L10</u>
<u>L9</u>	I6 and valine	6198	<u>L9</u>
<u>L8</u>	L7 and valine	9464	<u>L8</u>
<u>L7</u>	I4 and substitution	78617	<u>L7</u>
<u>L6</u>	L5 and substitution	27945	<u>L6</u>
<u>L5</u>	I2 and modification	119958	<u>L5</u>
<u>L4</u>	L3 and modification	646008	<u>L4</u>

<u>L3</u>	Factor X analog	1275695	<u>L3</u>
<u>L2</u>	L1 and analog	198148	<u>L2</u>
<u>L1</u>	factor X	1156199	<u>L1</u>

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E3	0 -->	HIMMELSPACH, M/AU
E4	1	HIMMELSREEN D A/AU
E5	16	HIMMELSTEI K J/AU
E6	2	HIMMELSTEI M I/AU
E7	8	HIMMELSTEI P/AU
E8	14	HIMMELSTEI S/AU
E9	36	HIMMELSTEIN A/AU
E10	1	HIMMELSTEIN ALLAN/AU
E11	2	HIMMELSTEIN B/AU
E12	1	HIMMELSTEIN BRUCE/AU

=> e schlokat, u/au

E1	1	SCHLOKAT UEW/AU
E2	69	SCHLOKAT UWE/AU
E3	0 -->	SCHLOKAT, U/AU
E4	42	SCHLOLAUT K H/AU
E5	16	SCHLOLAUT W/AU
E6	1	SCHLOLLERER M/AU
E7	2	SCHLOLZ M T/AU
E8	2	SCHLOLZ R/AU
E9	1	SCHLOM/AU
E10	12	SCHLOM D/AU
E11	171	SCHLOM D G/AU
E12	1	SCHLOM DARREL/AU

=> s e2

L1 69 "SCHLOKAT UWE"/AU

=> s e1

L2 1 "SCHLOKAT UEW"/AU

=> d l2 ti abs ibib tot

L2 ANSWER 1 OF 1 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN  
TI Triplet structure of human von Willebrand factor.  
AB Human von Willebrand factor (hp-vWF) is a high-molecular-mass protein found in plasma as a series of multimers. It consists of subunits comprising 2050 amino acids linked by disulphide bonds into multimers of various size ranging in molecular mass up to greater than 10000 kDa. Partial proteolysis at position Tyr842-Met843 of the subunit (Dent et al. (1990) Proc. Natl. Acad. Sci. U.S.A. 87, 6306-6310) by a vWF-specific protease (Furlan et al. (1993) Proc. Natl. Acad. Sci. U.S.A. 90, 7503-7507) results in the generation of an N-terminal and a C-terminal fragment and the appearance of hp-vWF triplet bands. It has been suggested (Furlan et al. (1993) Proc. Natl. Acad. Sci. U.S.A. 90, 7503-7507) that (i) the intermediate triplet band of the primary dimer represents a dimer of two C-terminal fragments, (ii) the slower migrating satellite band of the primary dimer represents an asymmetric structure composed of a mature subunit to which one N-terminal and one C-terminal fragment are linked by disulphide bonds, and (iii) the faster migrating satellite band of the primary dimer contains two N-terminal fragments. Here we used recombinant vWF (r-vWF) for structural analysis of hpvWF multimers. r-vWF exhibited no proteolytic degradation and all multimers contained mature subunits. High-resolution agarose-gel electrophoresis and two-dimensional electrophoresis demonstrated that (i) r-vWF multimers and hp-vWF intermediate triplet bands exhibited identical molecular mass and electrophoretic mobilities, (ii) the faster and slower migrating satellite bands of hp-vWF differ by less than the molecular mass of one subunit from the corresponding intermediate triplet band, and (iii) the triplet bands of hp-vWF are composed of mature and degraded subunits. The results support a structural model of hpvWF triplet bands according to which the intermediate triplet bands represent multiple numbers of symmetric and/or asymmetric dimers, the slower migrating satellite bands have one extra N-terminal fragment, and the faster migrating satellite band lacks one N-terminal fragment respectively in comparison with the corresponding intermediate triplet band.

ACCESSION NUMBER: 1998:252253 BIOSIS  
DOCUMENT NUMBER: PREV199800252253  
TITLE: Triplet structure of human von Willebrand factor.  
AUTHOR(S): Fischer, Bernhard E.; Thomas, Kathy B.; **Schlok**  
**Uew**; Dorner, Friedrich  
CORPORATE SOURCE: IMMUNO AG, Biomed. Res. Cent., Uferstrasse 15, A-2304  
Orth/Donau, Austria  
SOURCE: Biochemical Journal, (April 15, 1998) Vol. 331, No. 2, pp.  
483-488. print.  
ISSN: 0264-6021.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
ENTRY DATE: Entered STN: 9 Jun 1998  
Last Updated on STN: 12 Aug 1998

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(FILE 'HOME' ENTERED AT 16:28:22 ON 16 OCT 2004)

FILE 'MEDLINE, USPATFULL, BIOSIS, BIOTECHDS, WPIDS, WPIX, FSTA, EMBASE,  
DGENE, HCAPLUS' ENTERED AT 16:29:00 ON 16 OCT 2004

E HIMMELSPACH, M/AU

E SCHLOKAT, U/AU

L1 69 S E2

L2 1 S E1

=> s l1 and factor X  
L3 21 L1 AND FACTOR X

=> d l3 ti abs ibib tot

L3 ANSWER 1 OF 21 MEDLINE on STN

TI A fully recombinant partial prothrombin complex effectively bypasses fVIII in vitro and in vivo.

AB The development of inhibitory antibodies is a serious complication in hemophilic patients, severely compromising therapeutic success. Bleeding episodes in affected patients are controlled by treatment with a plasma-derived prothrombin complex concentrate (PCC), activated PCC (APCC) or recombinant activated factor VII. We hypothesized that a recombinant two-component agent consisting of recombinant prothrombin (rfII) and activated **factor X** (rfXa) would have substantial fVIII bypassing activity and could be a safe alternative therapeutic option. To test this hypothesis we assembled an agent in vitro solely consisting of rfII and rfXa at a molar ratio of 37,500:1. These factors are believed to be responsible for the activity of APCC preparations. Recombinant fX, used as the source for fXa generation, and rfII were purified from serum-free and protein-free conditioned media of stably transfected CHO and BHK tissue culture cells, respectively. Activation of rfX to rfXa was accomplished by the plant protease ficin, obviating the need for a protease derived from a human or animal source. We found that in vitro the complex reduced the abnormally prolonged activated partial thromboplastin time (APTT) of a high-titer fVIII inhibitor plasma similar to an APCC preparation. Furthermore, addition of increasing amounts of rfII/rfXa to inhibitor plasma resulted in a linear dose-dependent increase in the rate of thrombin generation. In a rabbit fVIII inhibitor model, treatment with rfII/rfXa statistically significantly reduced the intensity of the abnormal cuticle bleeding. In the Wessler test, rfII/rfXa showed no thrombogenicity. These data show that a well-defined, particularly safe and efficacious agent with fVIII bypassing activity can be generated from recombinant fII and fXa.

ACCESSION NUMBER: 2003023217 MEDLINE

DOCUMENT NUMBER: PubMed ID: 12529752

TITLE: A fully recombinant partial prothrombin complex effectively bypasses fVIII in vitro and in vivo.

AUTHOR: Himmelspach Michele; Richter Gunter; Muhr Evelyn; Varadi Katalin; Turecek Peter L; Dorner Friedrich; Schwarz Hans Peter; **Schlokat Uwe**

CORPORATE SOURCE: Baxter BioScience, Vienna, Austria.

SOURCE: Thrombosis and haemostasis, (2002 Dec) 88 (6) 1003-11.  
Journal code: 7608063. ISSN: 0340-6245.

PUB. COUNTRY: Germany: Germany, Federal Republic of

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200307

ENTRY DATE: Entered STN: 20030117

Last Updated on STN: 20030713

Entered Medline: 20030711

L3 ANSWER 2 OF 21 USPATFULL on STN

TI **Factor X** analogues having a modified protease cleavage site

AB **Factor X** analogues having a modification in the region of the natural Factor Xa activation cleavage site, said modification representing a processing site of a protease not naturally cleaving in this region of the **Factor X** sequence, preparations containing the **Factor X** analogues according to the invention, and processes for the preparation thereof are described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2003:258328 USPATFULL  
TITLE: **Factor X** analogues having a  
modified protease cleavage site  
INVENTOR(S): Himmelspach, Michele, Leopoldsdorf, AUSTRIA  
**Schlokat, Uwe**, Orth/Donau, AUSTRIA  
Dorner, Friedrich, Vienna, AUSTRIA  
Fisch, Andreas, St. Gallen, SWITZERLAND  
Eibl, Johann, Vienna, AUSTRIA

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003181381	A1	20030925
APPLICATION INFO.:	US 2003-407123	A1	20030404 (10)
RELATED APPLN. INFO.:	Division of Ser. No. US 1999-367791, filed on 12 Nov 1999, GRANTED, Pat. No. US 6573071 A 371 of International Ser. No. WO 1998-AT45, filed on 27 Feb 1998, UNKNOWN		

	NUMBER	DATE
PRIORITY INFORMATION:	AT 1997-335	19970227
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834	
NUMBER OF CLAIMS:	51	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	13 Drawing Page(s)	
LINE COUNT:	2349	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 3 OF 21 USPATFULL on STN  
TI **Factor X** deletion mutants and analogues thereof  
AB **Factor XA** analogues having a deletion of amino acids Arg180 to Arg234 and a modification in the region of the amino acid sequence between Gly173 and Arg179, preparations containing these **factor XA** analogues, and processes for the preparation thereof are described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2003:200929 USPATFULL  
TITLE: **Factor X** deletion mutants and analogues thereof  
INVENTOR(S): Himmelspach, Michele, Leopoldsdorf, AUSTRIA  
Pfleiderer, Michael, Darmstadt, GERMANY, FEDERAL REPUBLIC OF  
Falkner, Falko-Guenter, Orth/Donau, AUSTRIA  
Eibl, Johann, Vienna, AUSTRIA  
Dorner, Friedrich, Vienna, AUSTRIA  
**Schlokat, Uwe**, Orth/Donau, AUSTRIA

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003138914	A1	20030724
APPLICATION INFO.:	US 2003-348504	A1	20030121 (10)
RELATED APPLN. INFO.:	Division of Ser. No. US 1999-367777, filed on 18 Nov 1999, GRANTED, Pat. No. US 6562598 A 371 of International Ser. No. WO 1998-AT46, filed on 27 Feb 1998, UNKNOWN		

	NUMBER	DATE
PRIORITY INFORMATION:	AT 1997-336	19970227

DOCUMENT TYPE: Utility  
FILE SEGMENT: APPLICATION  
LEGAL REPRESENTATIVE: TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO  
CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834  
NUMBER OF CLAIMS: 45  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 12 Drawing Page(s)  
LINE COUNT: 2232  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 4 OF 21 USPATFULL on STN

TI Furin polypeptides with improved characteristics  
AB The present invention comprises a furin polypeptide having a modified  
amino acid sequence between the middle, homo-B-domain and the  
transmembrane domain compared to wild-type furin which retains  
proteolytic activity but is secreted at lower levels in cell culture  
compared to wild-type furin. Additionally, the invention includes  
nucleic acid molecules encoding such furin polypeptides, vectors and  
host cells comprising said nucleic acid molecules, compositions  
comprising said furin polypeptide and methods for producing such  
compositions.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2003:197057 USPATFULL  
TITLE: Furin polypeptides with improved characteristics  
INVENTOR(S): Plaimauer, Barbara, Vienna, AUSTRIA  
Schlokat, Uwe, Orth/Donau, AUSTRIA  
PATENT ASSIGNEE(S): Baxter Aktiengesellschaft, Vienna, AUSTRIA (non-U.S.  
corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6596526	B1	20030722
APPLICATION INFO.:	US 2000-592480		20000609 (9)

DOCUMENT TYPE: Utility  
FILE SEGMENT: GRANTED  
PRIMARY EXAMINER: Nashed, Nashaat T.  
ASSISTANT EXAMINER: Moore, William W.  
LEGAL REPRESENTATIVE: Fedrick, Michael F., Townsend and Townsend and Crew  
NUMBER OF CLAIMS: 15  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 6 Drawing Figure(s); 6 Drawing Page(s)  
LINE COUNT: 943  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 5 OF 21 USPATFULL on STN

TI **Factor X** analogues with a modified protease cleavage  
site  
AB **Factor X** analogues having a modification in the  
region of the natural Factor Xa activation cleavage site, said  
modification representing a processing site of a protease not naturally  
cleaving in this region of the **Factor X** sequence,  
preparations containing the **Factor X** analogues  
according to the invention, and processes for the preparation thereof  
are described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2003:148878 USPATFULL  
TITLE: **Factor X** analogues with a modified  
protease cleavage site  
INVENTOR(S): Himmelspach, Michele, Leopoldsdorf, AUSTRIA  
Schlokat, Uwe, Orth/Donau, AUSTRIA  
Dorner, Friedrich, Vienna, AUSTRIA  
Fisch, Andreas, St. Gallen, SWITZERLAND



PATENT ASSIGNEE(S): Eibl, Johann, Vienna, AUSTRIA  
Baxter Aktiengesellschaft, Vienna, AUSTRIA (non-U.S.  
corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6573071	B1	20030603
	WO 9838317		19980903
APPLICATION INFO.:	US 1999-367791		19991112 (9)
	WO 1998-AT45		19980227

	NUMBER	DATE
PRIORITY INFORMATION:	AT 1997-335	19970227
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Low, Christopher S. F.	
ASSISTANT EXAMINER:	Schnizer, Holly	
LEGAL REPRESENTATIVE:	Townsend and Townsend and Crew, L.L.P.	
NUMBER OF CLAIMS:	64	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	13 Drawing Figure(s); 13 Drawing Page(s)	
LINE COUNT:	2472	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 6 OF 21 USPATFULL on STN  
TI **Factor X** deletion mutants and analogues thereof  
AB **Factor XA** analogues are provided, as well as  
pharmaceutical preparations containing such analogues and methods of  
preparing such analogues. The **factor XA**  
analogues have a deletion of the amino acids Arg180 to Arg234 and a  
modification in the region of the amino acid sequence between Gly173 and  
Arg179 of the **factor X** amino acid sequence. Such  
analogues can include a processing site not normally present in  
**factor X**, thus allowing for selective conversion of  
the analogue to an active form. The analogues and preparations have  
utility in the treatment of a number of blood coagulation disorders.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2003:129813 USPATFULL  
TITLE: **Factor X** deletion mutants and  
analogues thereof  
INVENTOR(S): Himmelspach, Michele, Leopoldsdorf, AUSTRIA  
Pfleiderer, Michael, Darmstadt, GERMANY, FEDERAL  
REPUBLIC OF  
Falkner, Falko-Guenter, Orth/Donau, AUSTRIA  
Eibl, Johann, Vienna, AUSTRIA  
Dorner, Friedrich, Vienna, AUSTRIA  
**Schlokat, Uwe**, Orth/Donau, AUSTRIA  
PATENT ASSIGNEE(S): Baxter Aktiengesellschaft, Vienna, AUSTRIA (non-U.S.  
corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6562598	B1	20030513
	WO 9838318		19980903
APPLICATION INFO.:	US 1999-367777		19991118 (9)
	WO 1998-AT46		19980227

	NUMBER	DATE
PRIORITY INFORMATION:	AU 1997-336	19970227
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	

PRIMARY EXAMINER: Carlson, Karen Cochrane  
ASSISTANT EXAMINER: Snedden, Sheridan  
LEGAL REPRESENTATIVE: Townsend and Townsend and Crew LLP  
NUMBER OF CLAIMS: 56  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 15 Drawing Figure(s); 12 Drawing Page(s)  
LINE COUNT: 2334  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 7 OF 21 USPATFULL on STN

TI Fusion protein comprising a furin derivative or a derivative of a furin analogue and a heterologous sequence  
AB Fusion proteins of an optionally C-terminally deleted furin derivative, or of a derivative of a furin analogue, and a heterologous sequence, methods of preparing the same and methods of recovering proproteins from proteins by using the proproteins according to the invention are described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2001:47803 USPATFULL  
TITLE: Fusion protein comprising a furin derivative or a derivative of a furin analogue and a heterologous sequence  
INVENTOR(S): Schlokat, Uwe, Orth/Donau, Austria  
Fischer, Bernhard, Vienna, Austria  
Falkner, Falko-Guenter, Orth/Donau, Austria  
Dorner, Friedrich, Vienna, Austria  
Eibl, Johann, Vienna, Austria  
PATENT ASSIGNEE(S): Baxter Aktiengesellschaft, Vienna, Austria (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6210929	B1	20010403
APPLICATION INFO.:	US 1996-753247		19961122 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	AT 1995-1928	19951124
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Achutamurthy, Ponnathapu	
ASSISTANT EXAMINER:	Moore, William W.	
LEGAL REPRESENTATIVE:	Foley & Lardner	
NUMBER OF CLAIMS:	22	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	18 Drawing Figure(s); 16 Drawing Page(s)	
LINE COUNT:	1787	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 8 OF 21 USPATFULL on STN

TI Method for isolation of highly pure von willebrand factor  
AB The invention relates to a method for isolation of highly pure von Willebrand Factor in which recombinant von Willebrand Factor (rvWF) is chromatographically purified by anion exchange chromatography on an anion exchanger of the quaternary amino type in a buffer solution comprising buffer substances and optionally salt.

The buffer solutions are preferably free of stabilizers, amino acids and other additives. According to this method, highly pure recombinant vWF can be obtained, which is free from blood plasma proteins, especially free from Factor VIII, and is physiologically active.

Further, the invention relates to a pharmaceutical preparation that

contains rvWF, which is comprised of multimers with a high structural integrity.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2000:105877 USPATFULL  
TITLE: Method for isolation of highly pure von willebrand factor  
INVENTOR(S): Fischer, Bernhard, Vienna, Austria  
Mitterer, Artur, Orth/Donau, Austria  
Dorner, Friedrich, Vienna, Austria  
Schwarz, Hans-Peter, Vienna, Austria  
Turecek, Peter, Vienna, Austria  
Eibl, Johann, Vienna, Austria  
Falkner, Falko-Guenter, Orth/Donau, Austria  
Schlokat, Uwe, Orth/Donau, Austria  
Mundt, Wolfgang, Vienna, Austria  
Reiter, Manfred, Vienna, Austria  
Den-Bouwmeester, Renate, Vienna, Austria  
PATENT ASSIGNEE(S): Immuno Aktiengesellschaft, Vienna, Austria (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6103693		20000815
APPLICATION INFO.:	US 1997-898130		19970722 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1996-653298, filed on 24 May 1996, now patented, Pat. No. US 5854403 which is a continuation of Ser. No. WO 1995-EP3892, filed on 2 Oct 1995		

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1994-4435485	19941004
	WO 1995-EP3892	19951002
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Patterson, Jr., Charles L.	
LEGAL REPRESENTATIVE:	Foley & Lardner	
NUMBER OF CLAIMS:	13	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	1 Drawing Figure(s); 1 Drawing Page(s)	
LINE COUNT:	793	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 9 OF 21 USPATFULL on STN

TI Prothrombin derivatives

AB The invention relates to new prothrombin mutants or derivatives thereof which comprise one or more changes in their protein sequence as compared to natural protein, are either inactive or have an activity of approximately 10% at the most, preferably approximately 0.25% at the most, of the natural protein and which have a binding capacity relative to natural ligands (natural or synthetic anticoagulants) substantially corresponding to that of the natural protein. Furthermore, the use of mutated prothrombin mutants or derivatives, respectively, as pharmaceutical preparations is described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2000:87702 USPATFULL  
TITLE: Prothrombin derivatives  
INVENTOR(S): Fischer, Bernhard, Vienna, Austria  
Schlokat, Uwe, Orth/Donau, Austria  
Mitterer, Artur, Orth/Donau, Austria  
Falkner, Falko-Gunter, Orth/Donau, Austria  
Eibl, Johann, Vienna, Austria

09/632,712

PATENT ASSIGNEE(S): Baxter Aktiengesellschaft, Vienna, Austria (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6086871		20000711
	WO 9641868		19961227
APPLICATION INFO.:	US 1998-952967		19980126 (8)
	WO 1996-AT105		19960612
			19980126 PCT 371 date
			19980126 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	AT 1995-1005	19950613
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Prouty, Rebecca E.	
ASSISTANT EXAMINER:	Saidha, Tekchand	
LEGAL REPRESENTATIVE:	Foley & Lardner	
NUMBER OF CLAIMS:	22	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	14 Drawing Figure(s); 14 Drawing Page(s)	
LINE COUNT:	1863	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 10 OF 21 USPATFULL on STN

TI Method for isolation of highly pure von willebrand factor

AB The invention relates to a method for isolation of highly pure von Willebrand Factor in which recombinant von Willebrand Factor (rvWF) is chromatographically purified by anion exchange chromatography on an anion exchanger of the quaternary amino type in a buffer solution comprising buffer substances and optionally salt.

The buffer solutions are preferably free of stabilizers, amino acids and other additives. According to this method, highly pure recombinant vWF can be obtained, which is free from blood plasma proteins, especially free from Factor VIII, and is physiologically active.

Further, the invention relates to a pharmaceutical preparation that contains rvWF, which is comprised of multimers with a high structural integrity.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 1999:30944 USPATFULL

TITLE: Method for isolation of highly pure von willebrand factor

INVENTOR(S): Fischer, Bernhard, Vienna, Austria  
Mitterer, Artur, Orth/Donau, Austria  
Dorner, Friedrich, Vienna, Austria  
Schwarz, Hans-Peter, Vienna, Austria  
Turecek, Peter, Vienna, Austria  
Bibl, Johann, Vienna, Austria  
Falkner, Falko-Guenter, Orth/Donau, Austria  
Schlokat, Uwe, Orth/Donau, Austria

Mundt, Wolfgang, Vienna, Austria  
Reiter, Manfred, Vienna, Austria  
Den-Bouwmeester, Renate, Vienna, Austria

PATENT ASSIGNEE(S): Immuno Aktiengesellschaft, Vienna, Austria (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5880265		19990309

APPLICATION INFO.: US 1997-898129 19970722 (8)  
RELATED APPLN. INFO.: Division of Ser. No. US 1996-653298, filed on 24 May 1996

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1994-4435485	19941004
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Patterson, Jr., Charles L.	
LEGAL REPRESENTATIVE:	Foley & Lardner	
NUMBER OF CLAIMS:	7	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	1 Drawing Figure(s); 1 Drawing Page(s)	
LINE COUNT:	787	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 11 OF 21 USPATFULL on STN

TI Method for isolation of highly pure von Willebrand Factor  
AB The invention relates to a method for isolation of highly pure von Willebrand Factor in which recombinant von Willebrand Factor (rvWF) is chromatographically purified by anion exchange chromatography on an anion exchanger of the quaternary amino type in a buffer solution comprising buffer substances and optionally salt.

The buffer solutions are preferably free of stabilizers, amino acids and other additives. According to this method, highly pure recombinant vWF can be obtained, which is free from blood plasma proteins, especially free from Factor VIII, and is physiologically active.

Further, the invention relates to a pharmaceutical preparation that contains rvWF, which is comprised of multimers with a high structural integrity

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 1999:27611 USPATFULL  
TITLE: Method for isolation of highly pure von Willebrand Factor  
INVENTOR(S): Fischer, Bernhard, Vienna, Austria  
Mitterer, Artur, Orth/Donau, Austria  
Dorner, Friedrich, Vienna, Austria  
Schwarz, Hans-Peter, Vienna, Austria  
Turecek, Peter, Vienna, Austria  
Eibl, Johann, Vienna, Austria  
Falkner, Falko-Guenter, Orth/Donau, Austria  
Schlokot, Uwe, Orth/Donau, Austria  
Mundt, Wolfgang, Vienna, Austria  
Reiter, Manfred, Vienna, Austria  
Den-Bouwmeester, Renate, Vienna, Austria  
PATENT ASSIGNEE(S): Immuno Aktiengesellschaft, Vienna, Austria (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5877152		19990302
APPLICATION INFO.:	US 1997-898131		19970722 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1996-653298, filed on 24 May 1996		

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1994-4435485	19941004
	WO 1995-EP3892	19951002
DOCUMENT TYPE:	Utility	

FILE SEGMENT: Granted  
PRIMARY EXAMINER: Patterson, Jr., Charles L.  
LEGAL REPRESENTATIVE: Foley & Lardner  
NUMBER OF CLAIMS: 9  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 1 Drawing Figure(s); 1 Drawing Page(s)  
LINE COUNT: 767  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 12 OF 21 USPATFULL on STN  
TI Method for isolation of highly pure von Willebrand Factor  
AB The invention relates to a method for isolation of highly pure von Willebrand Factor in which recombinant von Willebrand Factor (rvWF) is chromatographically purified by anion exchange chromatography on an anion exchanger of the quaternary amino type in a buffer solution comprising buffer substances and optionally salt. The buffer solutions are preferably free of stabilizers, amino acids and other additives. According to this method, highly pure recombinant rvWF can be obtained, which is free from blood plasma proteins, especially free from Factor VIII, and is physiologically active. Further, the invention relates to a pharmaceutical preparation that contains rvWF, which comprises multimers with a high structural integrity.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
ACCESSION NUMBER: 1998:162660 USPATFULL  
TITLE: Method for isolation of highly pure von Willebrand Factor  
INVENTOR(S): Fischer, Bernhard, Vienna, Austria  
Mitterer, Artur, Orth/Donau, Austria  
Dorner, Friedrich, Vienna, Austria  
Schwarz, Hans-Peter, Vienna, Austria  
Turecek, Peter, Vienna, Austria  
Eibl, Johann, Vienna, Austria  
Falkner, Falko-Guenter, Orth/Donau, Austria  
Schlokot, Uwe, Orth/Donau, Austria  
Mundt, Wolfgang, Vienna, Austria  
Reiter, Manfred, Vienna, Austria  
Den-Bouwmeester, Renate, Vienna, Austria  
PATENT ASSIGNEE(S): Immuno Aktiengesellschaft, Vienna, Austria (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5854403		19981229
APPLICATION INFO.:	US 1996-653298		19960524 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1994-4435485	19941004
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Patterson, Jr., Charles L.	
LEGAL REPRESENTATIVE:	Foley & Lardner	
NUMBER OF CLAIMS:	16	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	1 Drawing Figure(s); 1 Drawing Page(s)	
LINE COUNT:	813	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 13 OF 21 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN  
TI **Factor X** analogues with a modified protease cleavage site.  
AB **Factor X** analogues having a modification in the region

of the natural Factor Xa activation cleavage site, said modification representing a processing site of a protease not naturally cleaving in this region of the **Factor X** sequence, preparations containing the **Factor X** analogues according to the invention, and processes for the preparation thereof are described.

ACCESSION NUMBER: 2003:313102 BIOSIS  
DOCUMENT NUMBER: PREV200300313102  
TITLE: **Factor X** analogues with a modified protease cleavage site.  
AUTHOR(S): Himmelspach, Michele [Inventor, Reprint Author];  
**Schlokot, Uwe** [Inventor]; Dorner, Friedrich [Inventor]; Fisch, Andreas [Inventor]; Eibl, Johann [Inventor]  
CORPORATE SOURCE: Leopoldsdorf, Austria  
ASSIGNEE: Baxter Aktiengesellschaft, Vienna, Austria  
PATENT INFORMATION: US 6573071 June 03, 2003  
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents; (June 3 2003) Vol. 1271, No. 1.  
<http://www.uspto.gov/web/menu/patdata.html>. e-file.  
ISSN: 0098-1133 (ISSN print).  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
ENTRY DATE: Entered STN: 2 Jul 2003  
Last Updated on STN: 2 Jul 2003

L3 ANSWER 14 OF 21 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN

TI **Factor X** deletion mutants and analogues thereof.

AB Factor XDELTA analogues are provided, as well as pharmaceutical preparations containing such analogues and methods of preparing such analogues. The factor XDELTA analogues have a deletion of the amino acids Arg180 to Arg234 and a modification in the region of the amino acid sequence between Gly173 and Arg179 of the **factor X** amino acid sequence. Such analogues can include a processing site not normally present in **factor X**, thus allowing for selective conversion of the analogue to an active form. The analogues and preparations have utility in the treatment of a number of blood coagulation disorders.

ACCESSION NUMBER: 2003:280417 BIOSIS  
DOCUMENT NUMBER: PREV200300280417  
TITLE: **Factor X** deletion mutants and analogues thereof.  
AUTHOR(S): Himmelspach, Michele [Inventor, Reprint Author];  
Pfleiderer, Michael [Inventor]; Falkner, Falko-Guenter [Inventor]; Eibl, Johann [Inventor]; Dorner, Friedrich [Inventor]; **Schlokot, Uwe** [Inventor]  
CORPORATE SOURCE: Leopoldsdorf, Austria  
ASSIGNEE: Baxter Aktiengesellschaft, Vienna, Austria  
PATENT INFORMATION: US 6562598 May 13, 2003  
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (May 13 2003) Vol. 1270, No. 2.  
<http://www.uspto.gov/web/menu/patdata.html>. e-file.  
ISSN: 0098-1133 (ISSN print).  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
ENTRY DATE: Entered STN: 11 Jun 2003  
Last Updated on STN: 11 Jun 2003

L3 ANSWER 15 OF 21 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN

TI A fully recombinant partial prothrombin complex effectively bypasses fVIII in vitro and in vivo.

AB The development of inhibitory antibodies is a serious complication in hemophilic patients, severely compromising therapeutic success. Bleeding

episodes in affected patients are controlled by treatment with a plasma-derived prothrombin complex concentrate (PCC), activated PCC (APCC) or recombinant activated factor VII. We hypothesized that a recombinant two-component agent consisting of recombinant prothrombin (rfII) and activated **factor X** (rfXa) would have substantial fVIII bypassing activity and could be a safe alternative therapeutic option. To test this hypothesis we assembled an agent in vitro solely consisting of rfII and rfXa at a molar ratio of 37,500:1. These factors are believed to be responsible for the activity of APCC preparations. Recombinant fX, used as the source for fXa generation, and rfII were purified from serum-free and protein-free conditioned media of stably transfected CHO and BHK tissue culture cells, respectively. Activation of rfX to rfXa was accomplished by the plant protease ficin, obviating the need for a protease derived from a human or animal source. We found that in vitro the complex reduced the abnormally prolonged activated partial thromboplastin time (APTT) of a high-titer fVIII inhibitor plasma similar to an APCC preparation. Furthermore, addition of increasing amounts of rfII/rfXa to inhibitor plasma resulted in a linear dose-dependent increase in the rate of thrombin generation. In a rabbit fVIII inhibitor model, treatment with rfII/rfXa statistically significantly reduced the intensity of the abnormal cuticle bleeding. In the Wessler test, rfII/rfXa showed no thrombogenicity. These data show that a well-defined, particularly safe and efficacious agent with fVIII bypassing activity can be generated from recombinant fII and fXa.

ACCESSION NUMBER: 2003:74363 BIOSIS  
DOCUMENT NUMBER: PREV200300074363  
TITLE: A fully recombinant partial prothrombin complex effectively bypasses fVIII in vitro and in vivo.  
AUTHOR(S): Himmelspach, Michele; Richter, Guenter; Muhr, Evelyn; Varadi, Katalin; Turecek, Peter L.; Dorner, Friedrich; Schwarz, Hans Peter [Reprint Author]; **Schlokat, Uwe**  
CORPORATE SOURCE: Baxter BioScience, Industriestrasse 67, 1221, Vienna, Austria  
schwarh@baxter.com  
SOURCE: Thrombosis and Haemostasis, (December 2002) Vol. 88, No. 6, pp. 1003-1011. print.  
CODEN: THHADQ. ISSN: 0340-6245.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
ENTRY DATE: Entered STN: 29 Jan 2003  
Last Updated on STN: 29 Jan 2003

L3 ANSWER 16 OF 21 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN  
TI Recombinant human **factor X**: High yield expression and the role of Furin in proteolytic maturation in vivo and in vitro.  
AB **Factor X/Xa** plays a pivotal role in the coagulation cascade and exhibits a therapeutic potential for the treatment of **factor X**-deficient as well as fVIII and FIX inhibitor patients. This report describes the establishment of Chinese hamster ovary cell clones expressing recombinant human **factor X** up to 120 mug/mLXday and 78 mug/106cellsXday, that is to 100-fold higher levels than reported previously. Although propeptide removal and single chain precursor to light and heavy chain processing as well as vitamin K-dependent gamma-carboxylation became impaired at these expression levels, up to 25% of the recombinant human **factor X** produced was active. This represents the highest functional activity ever reported for a vitamin K-dependent protein at such an expression level. Expression of recombinant human **factor X** in Chinese hamster ovary cells lacking the endoprotease Furin revealed that propeptide removal still occurred, whereas single chain precursor to light/heavy chain processing was abolished. This suggests that a protease different from Furin mediates propeptide removal, a unique finding compared with the other vitamin K-dependent coagulation factors. In



contrast, exposure of incompletely processed rFX molecules to soluble recombinant Furin in vitro mediated both of these cleavage reactions despite the absence of a typical argP4-xP3-lys/argP2-argP1 Furin cleavage site in the propeptide, indicating relaxed specificity in vitro. Concomitantly with the degree of processing, the functional activity of recombinant human **factor X** increased. Interestingly, Furin was shown to even perform correct N-terminal proteolytic trimming of FX molecules truncated amino-terminal to the P3 residue in vitro. Depending on the absence or presence of warfarin in the culture media, as well as on the processing state, four distinct recombinant human **factor X** light chain isoforms were observed and their structure characterized. One of these light chain forms correlated with the functional activity. Finally, the distribution of the individual light chain isoforms suggests that gamma-carboxylation may be a prerequisite for propeptide removal.

ACCESSION NUMBER: 2000:122688 BIOSIS  
DOCUMENT NUMBER: PREV200000122688  
TITLE: Recombinant human **factor X**: High yield expression and the role of Furin in proteolytic maturation in vivo and in vitro.  
AUTHOR(S): Himmelspach, Michele; Pfleiderer, Michael; Fischer, Bernhard E.; Plaimauer, Barbara; Antoine, Gerhard; Falkner, Falko G.; Dorner, Friedrich; **Schlokat, Uwe** [Reprint author]  
CORPORATE SOURCE: Division of Baxter Healthcare Corp., Biomedical Research Center, Hyland-IMMUNO, Uferstr. 15, Donau, 2304, Orth, Austria  
SOURCE: Thrombosis Research, (Jan. 15, 2000) Vol. 97, No. 2, pp. 51-67. print.  
CODEN: THBRAA. ISSN: 0049-3848.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
ENTRY DATE: Entered STN: 5 Apr 2000  
Last Updated on STN: 3 Jan 2002

L3 ANSWER 17 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN  
TI A fully recombinant partial prothrombin complex effectively bypasses fVIII in vitro and in vivo  
AB The development of inhibitory antibodies is a serious complication in hemophilic patients, severely compromising therapeutic success. Bleeding episodes in affected patients are controlled by treatment with a plasma-derived prothrombin complex concentrate (PCC), activated PCC (APCC) or recombinant activated factor VII. We hypothesized that a recombinant two-component agent consisting of recombinant prothrombin (rfII) and activated **factor X** (rfXa) would have substantial fVIII bypassing activity and could be a safe alternative therapeutic option. To test this hypothesis we assembled an agent in vitro solely consisting of rfII and rfXa at a molar ratio of 37,500:1. These factors are believed to be responsible for the activity of APCC preps. Recombinant fX, used as the source for fXa generation, and rfII were purified from serum-free and protein-free conditioned media of stably transfected CHO and BHK tissue culture cells, resp. Activation of rfX to rfXa was accomplished by the plant protease ficin, obviating the need for a protease derived from a human or animal source. We found that in vitro the complex reduced the abnormally prolonged activated partial thromboplastin time (APTT) of a high-titer fVIII inhibitor plasma similar to an APCC preparation. Furthermore, addition of increasing amts. of rfII/rfXa to inhibitor plasma resulted in a linear dose-dependent increase in the rate of thrombin generation. In a rabbit fVIII inhibitor model, treatment with rfII/rfXa statistically significantly reduced the intensity of the abnormal cuticle bleeding. In the Wessler test, rfII/rfXa showed no thrombogenicity. These data show that a well-defined, particularly safe and efficacious agent with fVIII bypassing activity can be generated from recombinant fII and fXa.

ACCESSION NUMBER: 2003:24142 HCAPLUS

DOCUMENT NUMBER: 139:614  
 TITLE: A fully recombinant partial prothrombin complex effectively bypasses fVIII in vitro and in vivo  
 AUTHOR(S): Himmelsbach, Michele; Richter, Gunter; Muhr, Evelyn; Varadi, Katalin; Turecek, Peter L.; Dorner, Friedrich; Schwarz, Hans Peter; **Schlokot, Uwe**  
 CORPORATE SOURCE: Baxter BioScience, Vienna, 1221, Austria  
 SOURCE: Thrombosis and Haemostasis (2002), 88(6), 1003-1011  
 CODEN: THHADQ; ISSN: 0340-6245  
 PUBLISHER: Schattauer GmbH  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 18 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN  
 TI **Factor X** substitution mutant with an improved ability to be activated  
 AB The invention relates to factor Xa analogs with a modified protease cleavage site, comprising a substitution of a min. of one of the amino acid between Glu226 and Arg234 and possibly Ile235 in the region of activation peptide. These modified cleavage sites in the region of activation peptide change protease specificity and facilitate factor XIa cleavage of the precursor. The invention also relates to preps. containing said factor Xa analogs and methods for the production thereof. The prepro-**factor X** analogs may be used to produce high-purity **factor X** for use as coagulants.

ACCESSION NUMBER: 2001:115178 HCAPLUS  
 DOCUMENT NUMBER: 134:168320  
 TITLE: **Factor X** substitution mutant with an improved ability to be activated  
 INVENTOR(S): Himmelsbach, Michele; **Schlokot, Uwe**  
 PATENT ASSIGNEE(S): Baxter A.-G., Austria  
 SOURCE: PCT Int. Appl., 50 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001010896	A2	20010215	WO 2000-EP7631	20000807
WO 2001010896	A3	20020711		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AT 9901377	A	20020715	AT 1999-1377	19990810
AT 410216	B	20030325		
EP 1238065	A2	20020911	EP 2000-949465	20000807
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
PRIORITY APPLN. INFO.:			AT 1999-1377	A 19990810
			WO 2000-EP7631	W 20000807
OTHER SOURCE(S):			MARPAT 134:168320	

L3 ANSWER 19 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN  
 TI **Factor X** deletion mutants with modified protease

cleavage sites for use in hemostatics

AB The invention relates to **factor X**Δ analogs, comprising a deletion of the amino acids Arg180 to Arg234 and a modification in the region of the amino acid sequence between Gly173 and Arg179. These modified cleavage sites prevent proteolysis by endogenous proteases and facilitate controlled cleavage of the precursor. The invention also relates to preps. containing said **factor X**Δ analogs and methods for the production thereof. The prepro-**factor X** analogs may be used to produce high-purity **factor X** for use in hemostatics.

ACCESSION NUMBER: 1998:608718 HCAPLUS

DOCUMENT NUMBER: 129:213519

TITLE: **Factor X** deletion mutants with modified protease cleavage sites for use in hemostatics

INVENTOR(S): Himmelspach, Michele; Pfleiderer, Michael; Falkner, Falko-gunter; Eibl, Johann; Dorner, Friedrich; Schlokot, Uwe

PATENT ASSIGNEE(S): Immuno A.-G., Austria

SOURCE: PCT Int. Appl., 82 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9838318	A1	19980903	WO 1998-AT46	19980227
W: AU, BR, CA, CZ, HU, IL, JP, MX, NO, PL, RU, SI, SK, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AT 9700336	A	19990115	AT 1997-336	19970227
AT 405517	B	19990927		
AU 9860808	A1	19980918	AU 1998-60808	19980227
AU 732953	B2	20010503		
BR 9807618	A	20000215	BR 1998-7618	19980227
EP 1012303	A1	20000628	EP 1998-905134	19980227
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI				
JP 2001513632	T2	20010904	JP 1998-537063	19980227
NO 9904136	A	19991027	NO 1999-4136	19990826
US 6562598	B1	20030513	US 1999-367777	19991118
US 2003138914	A1	20030724	US 2003-348504	20030121
PRIORITY APPLN. INFO.:			AT 1997-336	A 19970227
			WO 1998-AT46	W 19980227
			US 1999-367777	A3 19991118
REFERENCE COUNT:	2	THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L3 ANSWER 20 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN

TI **Factor X** analogs with a modified protease cleavage site

AB The invention relates to **factor X** analogs which have a modification in the area of the naturally occurring factor Xa activating cleavage site, said modification representing a processing site of a protease which does not naturally cleave in this area of the **factor X** sequence. These modified cleavage sites prevent proteolysis by endogenous proteases and facilitate controlled cleavage of the precursor. The invention also relates to preps. containing the innovative **factor X** analogs and to methods for the production thereof. The prepro-**factor X** analogs may be used to produce high-purity **factor X** for use in hemostatics.

ACCESSION NUMBER: 1998:608717 HCAPLUS

DOCUMENT NUMBER: 129:213518  
 TITLE: **Factor X** analogs with a modified  
 protease cleavage site  
 INVENTOR(S): Himmelspach, Michele; **Schlokat, Uwe**; Dorner,  
 Friedrich; Fisch, Andreas; Eibl, Johann  
 PATENT ASSIGNEE(S): Immuno A.-G., Austria  
 SOURCE: PCT Int. Appl., 86 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9838317	A1	19980903	WO 1998-AT45	19980227
W: AU, BR, CA, CZ, HU, IL, JP, MX, NO, PL, RU, SI, SK, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AT 9700335	A	19990115	AT 1997-335	19970227
AT 405516	B	19990927		
AU 9862002	A1	19980918	AU 1998-62002	19980227
AU 744428	B2	20020221		
EP 966536	A1	19991229	EP 1998-903943	19980227
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI				
BR 9807627	A	20000222	BR 1998-7627	19980227
JP 2001513631	T2	20010904	JP 1998-537062	19980227
SK 282369	B6	20020107	SK 1999-1170	19980227
MX 9907768	A	20000831	MX 1999-7768	19990823
NO 9904139	A	19991027	NO 1999-4139	19990826
US 6573071	B1	20030603	US 1999-367791	19991112
US 2003181381	A1	20030925	US 2003-407123	20030404
PRIORITY APPLN. INFO.:			AT 1997-335	A 19970227
			AT 1997-336	A 19970227
			WO 1998-AT45	W 19980227
			US 1999-367791	A3 19991112
REFERENCE COUNT:	2	THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L3 ANSWER 21 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN  
 TI Manufacture of furin and increasing the efficiency of secretion and  
 processing of proteins using furin  
 AB A method of increasing the efficiency of secretion and processing of  
 proteins from animal cells uses furin or a furin analog. The analogs have  
 the C-terminal cytoplasmic and transmembrane domains of the furin deleted.  
 The N-terminal moiety of the furin may be replaced by an affinity label to  
 simplify purification. The use of furin in the secretion and processing of von  
 Willebrand factor (vWF) are demonstrated. Co-expression of furin and vWF  
 cDNAs greatly increased the efficiency of secretion and processing of the  
 vWF. Furin analogs retaining the N-terminal catalytic domain and having  
 an affinity label in place of the C-terminal domains are bound to an  
 affinity matrix and used to process the von Willebrand factor precursor in  
 vitro.

ACCESSION NUMBER: 1997:447993 HCAPLUS  
 DOCUMENT NUMBER: 127:61638  
 TITLE: Manufacture of furin and increasing the efficiency of  
 secretion and processing of proteins using furin  
 INVENTOR(S): **Schlokat, Uwe**; Fischer, Bernhard; Falkner,  
 Falko-Guenter; Dorner, Friedrich; Eibl, Johann  
 PATENT ASSIGNEE(S): Immuno Aktiengesellschaft, Austria  
 SOURCE: Eur. Pat. Appl., 64 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 775750	A2	19970528	EP 1996-890171	19961119
EP 775750	A3	19990324		
R: AT, BE, CH, DE, DK, ES, FI, FR, GB, IT, LI, NL, PT, SE				
AT 9501928	A	19980715	AT 1995-1928	19951124
AT 404838	B	19990325		
NO 9604963	A	19970526	NO 1996-4963	19961122
US 6210929	B1	20010403	US 1996-753247	19961122
JP 09183800	A2	19970715	JP 1996-353126	19961125
PRIORITY APPLN. INFO.:			AT 1995-1928	A 19951124

=> s factor X analog  
L4 50 FACTOR X ANALOG

=> s l4 and substitution  
L5 1 L4 AND SUBSTITUTION

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L5 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2004 ACS on STN  
TI Factor X **substitution** mutant with an improved ability to be activated  
AB The invention relates to factor Xa analogs with a modified protease cleavage site, comprising a **substitution** of a min. of one of the amino acid between Glu226 and Arg234 and possibly Ile235 in the region of activation peptide. These modified cleavage sites in the region of activation peptide change protease specificity and facilitate factor XIa cleavage of the precursor. The invention also relates to preps. containing said factor Xa analogs and methods for the production thereof. The prepro-factor X analogs may be used to produce high-purity factor X for use as coagulants.

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